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F. Parkes Weber.

With the author's compliments.

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The Value of Meat in the preventive  
and curative Treatment of Pulmonary Tuberculosis.

By

**F. Parkes Weber, M.D., F.R.C.P.**

Physician to the German Hospital, London, and Assistant Physician, North London Hospital for Consumption.

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## I. ORIGINAL-ARBEITEN

### I.

# The Value of Meat in the preventive and curative Treatment of Pulmonary Tuberculosis.

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**G**ood feeding is of course acknowledged as of the greatest value in the preventive and curative treatment of pulmonary tuberculosis, but the relative value for this purpose of the different classes of foods has I believe not yet been sufficiently investigated. There are certain observations on men and dogs which make it seem probable that animal proteid food has an especial value in increasing the resistance of the tissues towards tuberculosis.

Many observers have held that there is a certain antagonism between gout and tuberculosis, and although there are great exceptions to the rule (notably in regard to gouty persons addicted to alcohol and gouty persons who have become generally decrepit) I believe that this antagonism does to some extent exist. This resistance of gouty persons towards tuberculosis is probably partly due to the meaty foods (butcher's meat, eggs and all animal proteid foods) which most persons with acquired goutiness have been accustomed to freely indulge in during much of their lives. I referred to the subject in 1892 in a paper on the "Association of Chronic Interstitial Nephritis with pulmonary Tuberculosis", and I then suggested that there might be some substance circulating in the blood in gouty persons, in minute quantities, yet sufficient to have an antagonistic action towards the growth of tubercle, and that perhaps this was likewise the case in persons taking an unusual amount of food, which "might partly account for the good result following the extra feeding of phthisical patients, when duly assisted by hygienic influences".<sup>1)</sup>

The wealthy classes on the whole are inclined to indulge excessively in animal food, and by this means, in some countries at least, favour the development of gouty diseases. On the other hand their mortality from pulmonary tuberculosis is relatively slight when compared to that of the poorer classes. In the case of large cities in which the streets are classified firstly in regard to the wealth of the inhabitants, and secondly in regard to the mortality from consumption, this can be conclusively shown. Doubtless overcrowding and all

<sup>1)</sup> „On the Association of Chronic Interstitial Nephritis with Pulmonary Tuberculosis“, by Dr. F. Parkes Weber, London, John Bale and Sons, 1892, p. 11.

kinds of bad hygiene play an immense part in determining the relatively great incidence of tuberculosis amongst the poor, but the insufficiency of meaty foods is, I believe, likewise partly responsible. The poorest classes, though they often obtain abundance of carbohydrate food, can generally obtain very little of the more expensive meaty foods. Great meat-eaters, if not alcoholic, rarely, even in the most unhygienic surroundings, become phthisical; and it may likewise be noted that in all charitable hospitals and sanatoria for tuberculosis more animal food is provided than the patients owing to their poverty can generally obtain in their own homes, whereas many of them have been already accustomed at home to as much carbohydrate food as they care for. Dr. J. Dvorak's remarks<sup>1)</sup> at the recent Berlin Congress may likewise be referred to. He pointed out that in Bohemia a want of resistance to disease was very noticeable in children fed with much carbohydrates and with too little animal proteids. Charles Richet's recent experiments<sup>2)</sup> on dogs are moreover very suggestive in this respect. He inoculated a certain number of dogs with tubercle. Those fed on a mixed carbohydrate and meat diet died on the average in thirty days, whereas those fed exclusively on abundance of raw meat survived for a very much longer period, and five out of ten were still living a year and a half after the experiment.

I should be sorry to be thought to be recommending a meat diet as a kind of panacea for all tuberculous diseases, or indeed to be recommending it at all indiscriminately for phthisical patients, but I wish to lay stress on the questions referred to, which have been relatively less discussed than most other points in the therapeutics of tuberculosis. Every one must admit the general value of good feeding in tuberculosis, and notably of abundance of fats in many cases of phthisis. A due proportion of vegetables and fruits is admittedly of great importance, perhaps especially for their antiscorbutic action in growing subjects. Moreover, in regard to the suitability of meaty foods, as in all other matters of treatment, great differences must be observed in different individuals. Whilst some persons have an inherent dislike for much meat, others have a great inclination to it, and in some cases a fair amount of butcher's meat in the diet will stimulate the appetite enormously for all kinds of food and render digestion more vigorous. This doubtless explains some of the value of abundant meat in regard to tuberculosis. In very acute and feverish stages of phthisis the advisability of much meat is naturally quite another question. In very advanced cases the great excretory organs, the kidneys and liver, are frequently damaged. The liver especially, which plays a very great part in the last stages of nitrogenous tissue-change, is almost always enlarged and infiltrated with fat<sup>3)</sup> in advanced and hectic cases of phthisis, showing clearly that its important

<sup>1)</sup> „Bericht über den Kongress zur Bekämpfung der Tuberkulose als Volkskrankheit“, Berlin, 1899, p. 619.

<sup>2)</sup> Académie de Médecine, Paris, Séance de 28 Nov. 1899.

<sup>3)</sup> This condition is of course very different to the so-called „sluggish liver“ resulting often transfrom habitually overworking the liver and digestive organs by too copious and stimulating a diet, especially in persons of sedentary habits.

functions are only imperfectly carried out. This state of the liver in bad cases of phthisis is due, I take it, partly to the fever, partly to the imperfect aëration of the blood owing to the damaged lungs, and partly to a toxæmic condition resulting from the absorption of harmful substances from the alimentary canal and from the breaking down of tuberculous foci. In such conditions obviously the diet must be of the blandest kind.

This brings me to another point. Obviously in the preventive and curative management of tuberculosis the liver and abdominal organs must be maintained in the greatest possible state of vigour and activity in order to make the best use of the food supplied. In preventive treatment, at least, how can this be better carried out than by insisting on a proper amount of open air exercise? By open air exercise, especially with a certain amount of up-hill work, the respiratory movements and the heart's action are increased and the blood is better aërated; the deeper inspiratory movements exercise an intermittent squeezing or gentle "massage action" on the liver and other abdominal viscera and on the abdominal blood vessels, and thus greatly favour the portal circulation and the metabolic and excretory functions of the liver. Exactly the reverse is the case when a sedentary occupation is followed in the dark, close, working-rooms of large cities. In such cases, apart from the harmful influence of the tuberculous process itself, the liver is encouraged to become inactive and fatty, just as that of the goose is in the dark damp cellar when required for a Strassburg pie.

The modern sanatorium treatment helps greatly to promote the circulation and activity of the important organs in the abdomen. By life as far as possible in the pure open air the proper aëration of the blood is maintained, and by the judicious use of hydrotherapy, muscular exercise and voluntary respiratory movements the healthy activity of the abdominal viscera is kept up so that the patient can make the best possible use of the food (notably the meaty food) which is given him. In this respect too, with reference to the question of special climates for pulmonary tuberculosis, one must admit that the rarefied air of high mountain resorts may, other things being equal, exert a special effect by its action in amplifying the respiratory movements, thus indirectly influencing the abdominal circulation and the functional activity of the abdominal viscera.



